THE CALIFORNIA VETERINARIAN

THE CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION

66th ANNUAL MEETING

JUNE 21, 22, 23, 1954
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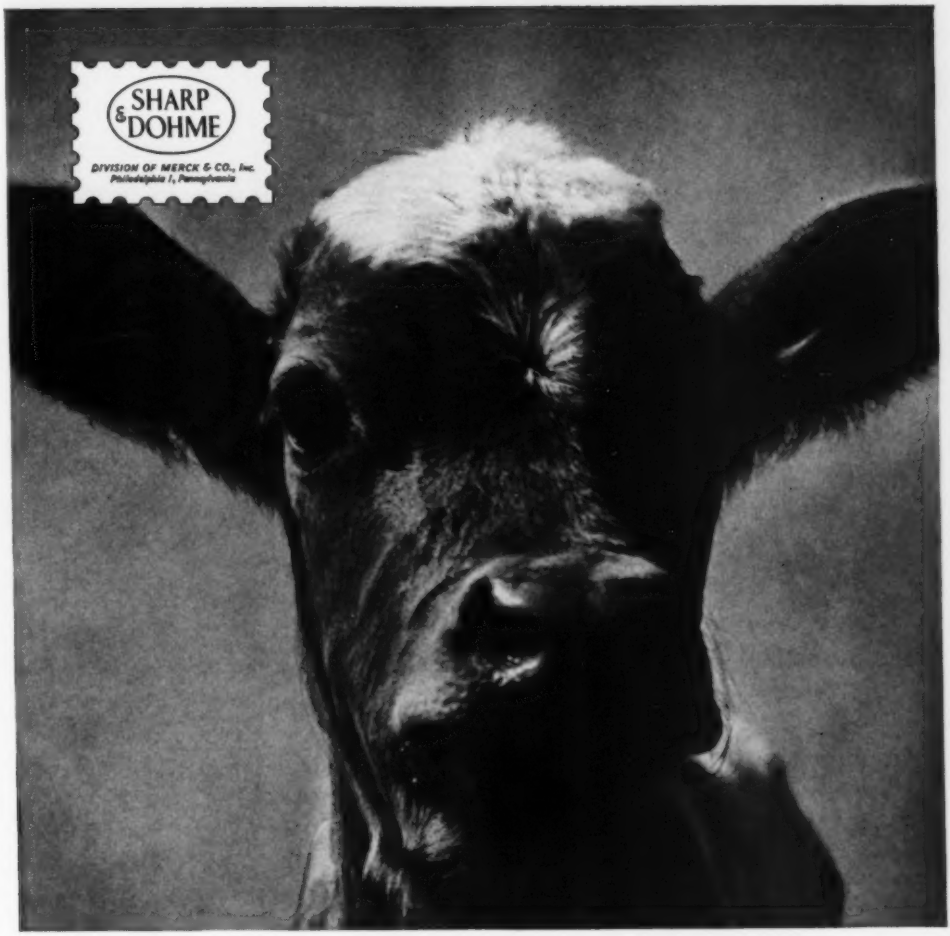

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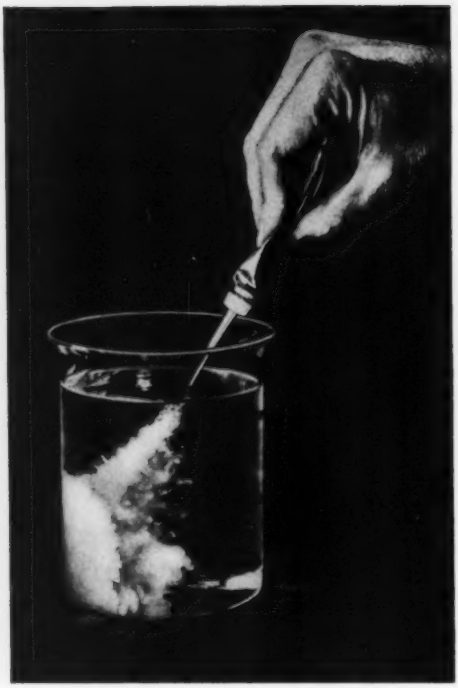

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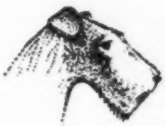

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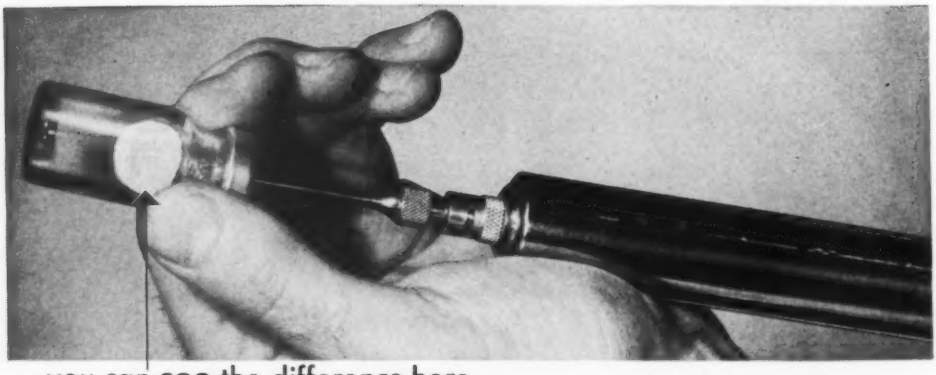

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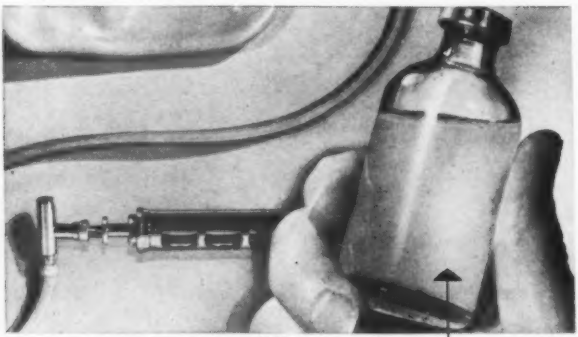

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THE CALIFORNIA VETERINARIAN

MARCH-APRIL, 1954

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Modern Methods of Fracture Treatment*

JACQUES JENNY, D.V.M.

The School of Veterinary Medicine, University of Pennsylvania, Philadelphia 4

Basic Principles

Despite, or maybe because of, the introduction of rather complicated apparatus and techniques within the last two decades, there is a revival of interest in the biological facts of fracture healing and in the study of mechanical principles.[1, 2, 3] Since the beginning of fracture treatment, surgeons strove to invent splints which could solve the paradox of combining the fixation of fragments with joint movement. In an endeavour to solve this problem, the engineering point of view has often been overemphasized. Fixation of fractures must be a compromise between biological and engineering principles. Though a fracture may be very solidly fixed, bony union will fail, if the biochemical and histological processus are disturbed. The importance of the soft tissues about the fracture site (intact periosteum and surrounding muscles) as a valuable guide during reduction ("soft tissue hinge") and as a factor in maintaining reduction is better appreciated.[2] Models explaining the "soft tissue hinge" are shown in the motion picture.

Conservative Treatment

The Schroeder-Thomas splint still holds first place among the appliances used for conservative treatment of humerus and femur fractures. A common source of failure with this method arises from trying to reduce a fracture by repeatedly tightening the traction bandages. The Schroeder-Thomas splint with fixed traction is only capable of maintaining a reduction previously secured by manipulation. Continuous skeletal traction, similar to the weight traction in humans, was obtained by Schroeder[4] with rubber bands attached to calipers or a Steinmann-pin-stirrup assembly, but it is little used since the introduction of intramedullary pinning. The conservative methods of fixation for fractures below the elbow and stifle are so numerous, that time and space does not permit to review them all. Generally materials such as *plywood*,[5] *yuccaboard*, *aluminum sheet*,[6] and *hardware cloth*[7] are all commendable for their ease of application. They give sufficient support to the injured limb; the immobilization of the fragments, however, could be improved. In human surgery *plaster of Paris* is still the medium of choice for external fixation. The adaptation of *Boehler's nonpadded technique*[8] seems to be proving its value especially in radius and ulna fractures where accurate retention of a reduction is desirable since even minor deformities are here so obvious. One of the main objections to a plaster of Paris cast was its weight and the fact that it deteriorates in contact with water. The introduction of a Resin† compound which is added to the water in which ordinary plaster bandages are soaked, makes the cast not only water-resistent but also much stronger, thus it can be made thinner and lighter. A non-padded plaster cast applied in two half-shells, held together with ordinary bandages or adhesive tape, permits periodical checks for normal circulation and possible pressure, without ever disturbing the position of the fragments.

Operative Fracture Treatment

Svend Larsen and Moltzen Nielsen deserve credit for pioneering operative fracture treatment in the veterinary field.[9, 10, 11] Operative more than conservative fracture treatment has often followed fashion rather than principle. Success or failure of any method of internal or skeletal fixation depends a great deal upon the careful selection of the appliance best suited for the individual fracture site and type. It is hoped that the days are gone when a new method is hailed as the solution for all fractures. The enlightened surgeon should acquaint himself with all that is good in every method and be familiar with the exact sphere of its usefulness.

Intramedullary fixation is undoubtedly the most noteworthy addition in this field during the last decade. Like previous innovations it had to undergo a transition period of amazing results and disappointing failures, until the proper indications and contraindications were found.[12] The intramedullary nail and pin have been used to treat fractures of mandibula, humerus, radius, ulna, femur, tibia and talus.[13,14,15,16,17]

Best results, however, are obtained in transverse or short oblique fractures of the upper and middle third of the femur and transverse fractures of the olecranon. Fresh fractures of these sites and types should always be nailed "blind," viz., without exposure of the fracture side.[18] By open reduction excellent results may also be obtained in long oblique and spiral fractures. In comminuted fractures without stability against shortening, the medullary nail is definitely contraindicated. In radius and ulnar fractures, where the fixation of one bone immobilizes the other sufficiently well, the pinning of the ulna is so much easier than of the radius. From the top of the olecranon a pin may be driven into the ulnar shaft in a straight line, whereas the radius pin introduced from the medial styloid process has to make a sharp bend. Among the different

*Presented at the CSVMA Midwinter Conference.

†Melmac (Davis & Geck). Orthopedic Resin (Johnson & Johnson).

types of intramedullary appliances, the Kuentscher- and the Hansen-Street nails surely give the best stability. Round pins are praised for their easier application, but they do not prevent rotation. Obel controls rotation by using two round pins introduced from two different points into the upper fragment, crossing each other and diverging in the distal fragment.[18] The same effect is obtained with the specially tempered Rush pin, which contacts the inner cortex at three points like a spring.[19]

External skeletal fixation by multiple transfixation pins attached to a rigid "exoskeleton," a technique first described by Lambotte[20] and re-introduced by Roger Anderson[21] and Schroeder (Angell Memorial Splint), became very popular through the Stader-[22, 23] and more recently the Kirchner-Ehmer[24] splint, and modifications thereof (Omrod).[25] After an enthusiastic reception and widespread use, the Stader splint was practically abandoned with the advent of intramedullary nailing. In human literature this splint has formed many critics, but the reported failures are at least to a great degree the result of its abuse. The transfixation pins should never penetrate heavy muscles, because the movement which occurs around the pins, if associated joints are exercised, will induce "pin-seepage" and invite infection. This then eliminates the femur except for the supracondylar fractures, where the knee joint is bridged and the quadriceps thereby immobilized. In humerus and tibia fractures two pins can be inserted in the upper fragment without transfixing muscles and in the distal fragments the pin sites can be chosen in such a manner that only minimal motion exists between the pins and muscles. Unlike the intramedullary pin or nail, the Stader- or Kirschner-Ehmer splint can give absolutely positive fixation in comminuted fractures. The more adaptable Kirschner-Ehmer splint lends itself better than any other method to the treatment of articular and multiple pelvis fractures[26, 27] and such problems as T, V or Y fractures of the humerus.[28]

Internal fixation by Plates and Screws, first used by Lane[29] and modified by Sherman,

(Continued on page 28)

	Method of choice	Alternate method used on heavier patients or under more difficult situations, e.g., multiple fractures
Mandible		
symphysis	fig. 8 wire around canine teeth	single pin across symphysis
ramus	intramedullary pin	Kirschner or Stader Splint
both rami	Kirschner-Ehmer or Stader Splint, anteriormost pin all the way across	intramed. pins
Humerus		
capital epiphysis	anatomical reduction (open if necessary), no fixation in small dogs, large ones bandage around chest, incl. humerus.	
shaft transverse	intramedullary pin (Rush)	Stader or Kirschner Splint
oblique & spiral	Schroeder-Thomas Splint	Stader or Kirschner Splint
comminuted	Schroeder-Thomas Splint	Stader or Kirschner Splint
condyle (med. or lat.)	Vitallium screw, no fixation	
condyles, V-T or Y	Transfixation pin with Kirschner Splint, joint fixed in midflexion.	Two Sherman Plates (med. & lat.), no fixation of joint
Radius & Ulna		
Olecranon	intramed. pin	
shaft	coaptation Splint (Aluminum etc.)	
distal third	non-padded plaster of paris carpus flexed and bent medially ("crooked splint makes straight leg")	
Femur		
neck	two Steinmann pins at diff. angles	Arthroplasty if necrosis of capital part
shaft transverse	Kuentscher nail (closed)	
oblique & spiral	Schroeder-Thomas	
comminuted	Schroeder-Thomas	Kuentscher nail (open)
suparacondylar	small round pin and Schroeder-Thomas	Stader or Kirschner Splint, joint immobilized in mid-flexion
Tibia		
transverse	intramedullary pin (Rush)	Stader or Kirschner
oblique & spiral	Schroeder-Thomas	Stader or Kirschner
comminuted	Schroeder-Thomas	Stader or Kirschner

Vaccination Procedures in Small Animal Practice*

ROBERT H. ERICKSON, D.V.M., *Chico, California*

In this paper I am presenting the distemper vaccination procedure, experiences and results in our small animal practice during the last ten years. As we go along I will evaluate the various vaccines as I used them, knowing very well that the results may not coincide with those of other practitioners; but I do feel that the results now obtained with avianized vaccine could be duplicated in any practice, rural or urban, or in any part of the country.

The vaccines in common use can be divided into three types: (1) tissue vaccines—commonly given in three doses two weeks or more apart; (2) live virus—one dose with or without serum; (3) Attenuated live virus of two types: distemperoid of ferret origin and avianized of egg-embryo origin.

In the two-year period from November, 1944, to November, 1946, I was more or less groping for the answer to the distemper immunization problem and used the three-dose tissue vaccine method; two tissue vaccines followed by live virus; and distemperoid. At that time I felt that I was getting the most permanent immunity from the distemperoid vaccine, if the dog survived the vaccination procedure. Data collected at that time are as follows:

Of 25 dogs vaccinated with three doses of tissue vaccine, five dogs or 20 per cent, developed clinical distemper three weeks or more after completion of the vaccination. Usually the distemper developed six or more months later. Of 40 dogs vaccinated with two doses of tissue vaccine followed by live virus, 8 dogs or 20 per cent, developed clinical distemper three weeks or more after completion of vaccination. Of 150 dogs vaccinated with distemperoid virus, four dogs or 2.5 per cent, developed clinical distemper three weeks or more after vaccination; five dogs or 3.5 per cent, developed severe reactions three weeks or less after vaccination. These reactions were as follows: No. 1, chorea 20 days after vaccination. No. 2, diarrhea and prolapse of the rectum 12 days after vaccination. No. 3, chorea 10 days after vaccination. No. 4, diarrhea and severe vomiting seven days after vaccination. No. 5, weaving of head, vomiting and fever of 105 seven days after vaccination. The 90 per cent or more that showed no severe reaction were solidly immune for life. In my opinion the Green method of vaccination (distemperoid) was a mighty big step forward in distemper prophylaxis.

About that time, November, 1946, live virus alone was being advocated. It was tried for a ten-month period. Although we did not keep records, the results were not as good as on the vaccines previously used.

In an attempt to reduce vaccination reactions caused by distemperoid alone, I started using one dose of tissue vaccine followed in three weeks by distemperoid. During the next 28 months, up until January of 1950, 720 dogs were vaccinated. I did not keep records as to the number of breaks but results were on the whole very good. If the avianized vaccine were not available, this would still be my choice of vaccination procedures. The use of a tissue vaccine before the distemperoid solved the reaction problem, but sometimes prevented the development of a permanent immunity. Most of the dogs that broke with distemper did so six months or more after completion of vaccination.

In January, 1950, I was still looking for the best vaccination procedure. The intradermal method of vaccination had been very successful in equine encephalomyelitis prophylaxis, and had just been introduced for distemper immunization. Two doses were given two weeks apart. During the next 22 months, 580 dogs were vaccinated by this method. Again I did not keep records, but results were on the whole very poor. Permanent immunity developed only if the dog received kennel or street exposure to distemper virus shortly after vaccination. Most of the breaks were seen six months or more after completion of vaccination; in fact, I am still seeing breaks in dogs vaccinated during that period.

When the avianized vaccine came on the market, I thought it was in all probability just another try, no better than the rest. But I failed to see more than a few breaks in dogs vaccinated with avianized vaccine by my colleagues. In the period from November, 1951, to the present time, I have vaccinated 880 dogs with this vaccine. By checking with the other practitioners in the city and by my own records, there have been only four known breaks, three weeks or more after vaccination was completed. In three of these cases the avianized vaccine was given three weeks after serum. I cannot help but believe that the serum was responsible for the lack of permanent immunity. For this reason I never use serum as a temporary protection unless the pup is known to be exposed to distemper. In the fourth dog, infectious hepatitis vaccine was given simultaneously with avianized. If this had any effect on the immunity produced I do not know. Of these four breaks, three dogs developed chorea while the other recovered.

Our vaccination procedure at present is to give avianized vaccine at six weeks. Since immunity is probably not too good at that age, we then give avianized vaccine six weeks later or at three months of age. Should a

*Presented at the C.S.V.M.A. Midwinter Conference, January 26, 1954.

puppy come in that is ten weeks or more of age, we give the avianized vaccine and suggest a booster of avianized vaccine in six months. Clinical experience leads me to believe that one of the causes of breaks in the use of avianized vaccine is vaccine that is dead at the time it is given. The most probable cause of dead vaccine in our valley would be overheating of the product in transit. This can be illustrated by the case where an entire shipment of avianized vaccine failed to give protection. The vaccine was given to a litter of six two-week-old Norwegian Elk Hounds by a neighboring veterinarian during the hot month of August. Of this number, five developed distemper. I saw two of the litter at six months of age, both of which developed chorea. You as well as the distributors cannot be careful enough in the handling of this vaccine. Have it shipped by the fastest possible route; have the agent phone on arrival; don't allow it to lie in the station over a weekend; pick it up and get it in the refrigerator in the shortest possible time.

Another factor which is sometimes overlooked in the use of a live product such as avianized vaccine is the use of a new syringe that has never been sterilized by chemical means. Even if you have only used a syringe once with serum preserved with phenol, rinsing is usually not adequate in removing the traces of phenol which could easily inactivate the avianized vaccine. We use a separately marked syringe rinsed thoroughly between vaccinations under the hot water faucet. The outside of the needle is wiped with a pledget of cotton and alcohol.

When an animal known to be exposed to distemper comes in for vaccination, the only safe product to use is serum. Wait at least three weeks before giving the avianized vaccine and recommend another avianized vaccine in four to six months.

In our experience immunity develops rapidly after vaccination. If a non-immune puppy comes in for spaying or ear trimming, the avianized vaccine is given immediately. The dog is isolated in a kennel room that is free of distemper virus, and the surgery done the same day. I use the cat ward for this isolation. In two to three days I put these dogs in the regular kennels and runs where exposure to distemper virus is eminent. To date we have not had a break using this procedure. Research presented at the American Animal Hospital Association meeting in Pasadena emphasized the importance of giving tissue vaccine or serum the minute a dog comes into the hospital. Delaying a few hours or a day cuts down on their efficiency. I believe this is also true of the avianized vaccine. Our practice is to give the vaccine the minute the animal comes into the hospital. This phenomenon would tend to substantiate the cell block theory.

In our practice, infectious hepatitis has not been too much of a problem until recently. To date I have vaccinated only 75 dogs. The vaccine has been given intradermally, simultaneously with the avianized. There have been no known breaks or reactions.

Feline enteritis in our area is limited to the winter months. Routinely I use three doses two months apart with a booster in September of the second winter. The results are uniformaly good. The breaks I have seen have been in cats vaccinated six months to a year previously with two doses 10 to 14 days apart.

Armour Laboratories Opens Branch in Los Angeles

The Armour Veterinary Laboratories have announced the establishment of a company branch and shipping point at 22034 Crespi Street, Woodland Hills, California. The appointment of Mr. John R. Carroll as branch manager was announced in Chicago by Mr. E. J. Hennessy, general sales manager. Mr. Carroll, recently of Glenview, Illinois, formerly represented another veterinary house in California.

Establishment of the Los Angeles area branch follows closely upon the successful establishment of a Denver, Colorado, branch in the last few months and represents an increased awareness on the part of veterinary manufacturers of the importance of the California Veterinarians as "trend makers," Mr. Hennessy said. The high standard of practice in this area makes it especially attractive to those who are committed to a sales policy of selling only to graduate veterinarians. The Armour Laboratories now maintains ten branch offices in the United States and also distributes through ethical veterinary wholesalers.

Armour introduced ACTH in the veterinary field about a year ago in the form of Adrenomone as a specific treatment for ketosis and has recently added Adrenocillin, an ACTH-penicillin combination of interest to small animal practitioners, as well as P.L.H., a new purified luteinizing hormone; P.O.P., a new purified oxytocin and Dynamone, a long acting glucose which combines ACTH and glucose therapies.

Civil Service Openings

Examinations for the position of Veterinarian I will be held almost monthly this year, and those interested in State work may obtain details from any State employment office or the State Personnel Board in Sacramento. Applicants must be citizens, with valid veterinary degree and California driver's license but need not be California residents. A license to practice must be secured within twelve months of appointment.

Infectious Bronchitis in California

D. V. ZANDER, M.S., D.V.M., Ph.D., and W. W SADLER, D.V.M.
School of Veterinary Medicine, University of California, Davis, California

Introduction

In a panel discussion during the summer of 1949, attention was called to the serious nature of infectious bronchitis in laying hens in California.[1] It was stated that the disease caused an estimated loss of one dollar per infected bird due to the drop in the number of eggs produced and to their poor quality.

Although infectious bronchitis has been diagnosed frequently in laboratories in California, no data were recorded concerning the extent of the disease within the state. This report concerns a survey designed to determine the areas in which infectious bronchitis had occurred as indicated by challenge of groups of birds sent to the University of California at Davis in 1951, 1952 and early 1953. Procedure:

The test flocks were selected in an attempt to obtain a representative sample of the commercial laying flocks in the state with respect to environment, exposure to disease, management procedures, and location within the state. Through the courtesy of the Agricultural Extension Service of the University of California, the Division of Animal Industry of the State of California, and poultrymen throughout the state, hens or pullets (not less than three or more than six per sample) were selected at random from 46 flocks and sent to the School of Veterinary Medicine at Davis for challenge. Chickens over 20 weeks of age were arbitrarily considered as adults since this is the age at which many single-comb White Leghorn flocks begin to lay.

The challenge virus was obtained from the Massachusetts Experiment Station through the courtesy of Dr. Henry Van Roekel and propagated in chick embryos in this laboratory. Each time a group of birds was challenged, susceptible and immune chickens were also inoculated with the same quantity of the same inoculum. These served as controls to insure that the virus was capable of eliciting an observable response in susceptible birds and incapable of producing symptoms in immune birds.

Upon arrival the chickens were inoculated intra-tracheally with 0.2 ml of a 1:10 dilution of allantoic culture of infectious bronchitis virus and observed for 14 days. As a rule obvious respiratory symptoms developed within 48 hours post-inoculation in the susceptible controls and in the susceptible test birds received from the ranches. In most cases the symptoms subsided within one week. The characteristic respiratory rale heard in birds which became infected could best be described by the term "gurgling." Birds which did not exhibit this sympton after challenge were not considered susceptible.

During the period of the survey, birds from four infected adult laying flocks and one pullet flock were brought to Davis for diagnosis. Infectious bronchitis virus was isolated in each instance and these flocks were included in the survey. Three of the four laying flocks were in areas of low poultry concentration. It was

[1]Rosenwald, A. S., Jerstad, A. C., Jones, E. E., Beach, J. R., Hinshaw, W. R., and Lorenz, F. W.: Respiratory Diseases of Chickens and Turkeys (panel discussion). *Abstracts*, Poultry Industry Conf., June, 1949; Published by College of Agriculture, University of California, Berkeley.

SUMMARY OF INFECTIOUS BRONCHITIS SURVEY IN CALIFORNIA

Place of origin of birds submitted	Adult Flocks Tested (over 20 weeks)			Pullet Flocks Tested (under 20 weeks)			Infected Flocks (I.B. virus isolated)	
	Total Flocks	Immune Flocks	Suscep. Flocks	Total Flocks	Immune Flocks	Suscep. Flocks	Adult Flocks	Pullet Flocks
Sonoma County	5	5	0	1	1	0		
East Bay Counties	3	3	0	1	1	0	1	0
Lower Sacramento Valley	3	3	0				3**	1
Stanislaus County	1	1	0	1	0	1*		
Tulare and Fresno Counties	14	13	1	8	4	4*		
San Luis Obispo County	1	1	0					
Los Angeles County	3	3	0					
San Diego County	5	5	0					
TOTALS	35	34	1	11	6	5	4	1

Total flocks—pullets and adults 51
Total flocks—challenged 46
Total flocks—susceptible to challenge 6
Total flocks—immune to challenge 40
Total flocks—encountered in active stage of infection 5

*An outbreak occurred in the flock in Stanislaus county and in one flock in Tulare County after the challenge test.
**One sample received from Sparks, Nevada.

interesting to observe that one of these flocks was over two years old. Results and Discussion:

Results of the survey are presented in the table on page 20. Thirty-four and thirty-five adult laying flocks in widely scattered areas of California were found to be immune in infectious bronchitis, and only one was susceptible. Active outbreaks were detected in four additional laying flocks. Eleven pullet flocks were sampled and six were found to be immune while five were susceptible. An active infection was detected in one additional pullet flock. An outbreak occurred in two of the five susceptible pullet flocks soon after the flock was sampled. The adverse result of one of these outbreaks has been reported by Urban and Goodwin.[2]

Although the number of samples is small, this survey demonstrated that infectious bronchitis is endemic in major commercial egg-producing areas of the state, and also in areas of low poultry concentration, and that the majority of the laying flocks are immune as a consequence of natural infection. There was of course, no way of determining when the adult flocks in this survey acquired the infection. No attempt was made to determine whether the adult hens which were challenged were in their first or subsequent years of production, but in this state only a small proportion of the laying hens are held beyond the first production year.

The five susceptible pullet flocks were located in areas of rather high poultry concentration (Stanislaus and Tulare Counties) and were limited to three ranches. On the other hand three of the four adult flocks in which outbreaks were detected after they were in production were located in areas of low poultry concentration (Solano County and Berkeley). This emphasized the viewpoint that the introduction of infectious bronchitis on a ranch is postponed or avoided if it is isolated from other poultry ranches. In isolated areas it is possible for a flock to reach its second year of production and still be susceptible to infectious bronchitis.

Since only about one-half of the pullet flocks sampled were immune at 20 weeks of age whereas nearly all the adult flocks sampled were immune, this limited survey indicates that if a flock does not become infected before egg production begins it will become infected during the first laying year. For this reason susceptible laying flocks always present a potential economic hazard.

[2]Urban, W. D., and K. Goodwin: Infectious Bronchitis. Misc. Publications of Kimber Farms, Inc., Niles, California, 1953.

Congratulations to 1st Lt. and Mrs. Arthur E. Maude on the birth of a daughter, Karen Elaine, at St. Alban's Naval Hospital, Long Island, N. Y., on March 30th.

Case Report: Male Boxer

Subject was a 17-month-old male Boxer, born and raised in the Coalinga area. Vaccinations against canine distemper and rabies were given at three months of age and ears cropped.

On May 21, 1953, the dog was presented with a "cough." Mixed bacterin No. 1 canine was given and a cough syrup prescribed. Coughing stopped.

During August of this year the dog was wormed and trained for obedience. This schooling was completed by the end of August at which time everyone concerned commented on the very excellent state of health the animal seemed to evidence.

During September the dog was treated by another veterinarian for "lung congestion" on the basis of X-ray examination. Other treatment given is not known.

I saw dog again on November 4 last year, at which time he was in a state of extreme emaciation, dull, listless, had a dry hacking cough, and a temperature of 104 F. Breathing the next day and the day following was difficult during expiration more than inspiration. The left thoracic area was dull but presented more breath sounds than the right side. Blood examination was negative for filaria. Blood urea was 30 mg per cent—urine normal.

A tentative diagnosis of bronchial obstruction was made, with the possibility of mediastinal lymph nodes being the cause due to coccidiomycosis.

X-ray examination dorsal—ventrally showed a pneumothorax on the left side, and possible atelectasis in both anterior lobes.

A bronchoscopy was performed by a physician and showed a shifting to the left side of the bronchi, and the presence of a slight amount of pus in the left bronchi. He commented that the pressure was extrinsic to the lung and suggested an infectious process in the mediastinum.

The dog died November 8 and was autopsied. Complete collapse of the left lung was present, the tissue being mostly abscessed. The mediastinum was abscessed as was the anterior lobe of the right lung. Metastasis of this infection was present in the left axillary lymph node, the liver and one kidney. No bone lesions were found.

Direct smears examined microscopically by members of the State Pathological Laboratory showed typical coccidiodes spheres.

THOMAS B. EVILLE, D.V.M.

AAHA to Meet in New York

The 21st annual meeting of the AAHA will be held at the Hotel Statler in New York City, May 5 to 8. Programs and cards for making hotel reservations may be obtained from Dr. Wayne H. Riser, Executive Secretary, 5335 Touhy Avenue, Skokie, Ill.

Further Experiences With A New Antiseptic

NORMAN A. ROTHENBERG, D.V.M., and ROYAL E. KLOFANDA, D.V.M.
Desert Veterinary Hospital, Victorville, Calif.

Recently, preliminary results were reported on the use of a mercosterol perparation[1] in the treatment of mastitis.[2] Although the results were satsfactory in 49 of the 52 cases treated, it was indicated that additional clinical experience was necessary before definite conclusions could be made regarding the efficacy of the product. It is the purpose of this report to present further information regarding the treatment of mastitis with the mercuriated sterol and to present data concerning other applications of this potent antiseptic in veterinary practice.

Mastitis

It was fortunate that in 50 of the original cases reported, bacteriological data were available to determine the causative organisms. While no such data are available for the additional 56 cases presented here, it is probable that the same type of infecting bacteria were present in approximately the same proportion. Actually, since the mercosterol preparation has been demonstrated to be lethal for all the organisms commonly associated with bovine mastitis, such data are of more scientific than practical significance. This second series comprises cases encountered in daily practice, and all diagnoses were confirmed by the strip cup and bromthymol blue tests.

In the first series of 52, three chronic cases failed to respond to treatment with the mercuriated preparation. Of the 56 additional cases, six can be classified as failures; three of these were chronic and other forms of therapy had been used without satisfactory results. It is dubious, because of the pathological changes present, whether any form of intramammary therapy would reach the sites of infection in these animals, and eliminate the causative organism. The remaining three cases classified as failures probably should not be included in this series since they were atypical. These three animals were second calf heifers that in addition to having mastitis were extremely toxic, with temperatures of 106 when first seen. They failed to respond either to the mercuriated sterol preparation or to antibiotics. Since these cases were comparable to others that had been encountered in which the febrile reaction was apparently due to high protein diet, antihistamines were administered with satisfactory results.

Judicious and careful consideration is indicated in evaluating the results of any mastitis treatment, since animal husbandry plays such an important role. It is difficult to condemn a product as ineffective because the infection recurs when good sanitary practices are ignored by the owner. In the majority of cases the mercuriated sterol has satisfactorily ameliorated the symptoms of mastitis even when it was impossible to gain the cooperation of the owners in following a good mastitis control program. Furthermore, the owner is willing to treat his animals with all types of remedies until the severity of the infection demands the attention of the veterinarian. This therapy usually is one of the antibiotic-sulfonamide mixtures, and the problem of resistant bacteria is becoming increasingly important. The consequence of bacterial resistance is reflected by the increase in dosage from 25,000 units of penicillin per infusion to the presently recommended 1,000,000 units. An extended bibliography has appeared on this subject, and only recently Dr. George H. Hart, speaking before a meeting of the Agricultural Research Institute, pointed out that a species of organisms can not be destroyed by antibiotics and that reliance on these drugs alone to kill organisms will produce immune strains which may be very difficult, if not impossible, to eliminate.[3] A number of cases in this series had intensive antibiotic therapy and were undoubtedly examples of mastitis caused by antibiotic-resistant bacteria.

In the first series of animals studied, the antiseptic was supplied in bulk by the manufacturer, and dosage was limited to 10 cc. once daily since application had to be made with a syringe and needle. Only in the most severe cases was it feasible to resort to two applications of the oil per day. In the present series, the preparation was available in individual dosage tubes of 10 cc. While good results were obtained with a single daily dose of the contents of one tube, it was a clinical impression that this amount given twice daily, after each milking, gave more prompt and uniform results. It is recommended that such a dosage regime be followed whenever possible. The following abbreviated reports are typical of the cases treated:

B Dairy—2 cases. Previous treatment by the owner consisted of Bacterin No. 1 and Bacterin No. 2. When the infection persisted a penicillin-streptomycin preparation was given. The milk cleared but the mastitis recurred in three days. Continued treatment with the penicillin-streptomycin mixture gave no results. The mercosterol preparation cleared one cow in a single day and the second cow cleared after two days of therapy. Both animals have remained free of symptoms.

[1] *Mastrex*, Pacific Laboratories, Inc., Richmond, Calif.

[2] *North American Veterinarian, 34, 775, 1953.*

[3] *Drug Trade News, 38, 54, 1953.*

W Ranch. Second calf heifer. When first seen, the temperature was 106 and the animal very toxic. The udder was enlarged to twice normal size, very hot and hard. This case was typical of those which usually progress to gangrene and death. Two million units of penicillin and 2.5 Gm. of streptomycin were given intramuscularly twice daily, and 20 cc. mercosterol in each quarter. The infection cleared rapidly. However, the udder never regained normal milk production because of severe irreversible damage, and the animal was finally slaughtered.

In no instance has any sign of toxicity been observed, although close attention has been paid to this because of experiences with other remedies. In reply to a direct interrogation on this point, the manufacturers have stated that during clinical trials in several hundred cases two animals exhibited signs of local sensitivity to the medication. There has been no evidence of any permanent damage to the udder due to the mercuriated sterol. Certainly on the basis of the cases studied to date, this new antiseptic has failed to demonstrate irritating properties. In fact, after extensive use in other indications to be described later in this presentation, this antiseptic appears to be soothing and to possess wound healing properties.

As a result of clinical trials for the past several months, certain conclusions regarding the value of this particular product as a treatment for mastitis are now warranted. In the preliminary publication, criteria were established by which a mastitis remedy could be evaluated. These were: (1) a preparation that is neither an antibiotic nor a sulfonamide; (2) a wide antibacterial spectrum with little or no chance for development of resistance or compensation to the drug; (3) lack of toxicity; and (4) use under professional supervision. It is felt that the mercuriated sterol preparation satisfactorily meets those requirements. It is evident, however, that failures will be encountered in a small percentage of cases and that this product, like the multitude of others that have preceded it, will not accomplish miracles. It has been encouraging to note no evidence of resistance or compensation developing following the use of the mercuriated sterol. The drug has been particularly valuable in producing satisfactory results in animals wherein the causative organisms have obviously become resistant to antibiotic therapy. Such cases do, however, take longer to treat than the acute infections which receive the mercosterol preparation as the primary method of treatment. Furthermore, it is customary to utilize the antibiotics systemically in conjunction with the local use of the mercosterol product in severe cases of mastitis that exhibit generalized toxemia.

Other Indications

It was reported previously that the antiseptic preparations of the mercuriated sterol have been utilized to good advantage in other conditions encountered in general practice, such as cuts, wounds, and infections in horses, cattle, dogs, and cats. The product used either in an oil or a petrolatum ointment has been employed both in the treatment of infected lesions and as a prophylactic when the possibility of infection seemed imminent. It is estimated that several hundred animals have now received local applications of the drug with uniformly good results. Once again, the lack of toxicity has been particularly gratifying.

Perhaps the most promising indication for this new antiseptic in small animal practice has been the treatment of otitis and otorrhea in cats and dogs. In general, the results have been very satisfactory although some infections, untreated for long periods of time, required surgery. When ticks or ear mites were present, the mercuriated sterol was combined with one of the well-known remedies for ear mites. Such combinations appeared to be compatible and the results satisfactory. The oil was dispensed in dropper bottles with instructions to use at least twice daily with gentle massage. The results to date have been far better than with the other previously employed medicaments.

Another obvious indication for this new antiseptic was the treatment of infected anal glands in dogs. After treating a large series of cases of this very troublesome condition, the results were not as miraculous as hoped for. The mercuriated sterol is certainly as satisfactory as any other antiseptic available, and far better than most, but a good percentage of cases still require surgery.

Since *in vitro* experiments demonstrated that mercosterol is a potent fungicide, the ointment has been used in treating dermatological fungus infections with excellent results. It has also been beneficial in many cases of eczema and pustular lesions. In infected wounds it is particularly impressive how rapidly the infection clears and any foul odor disappears. For example, a valuable quarter horse was seen with a puncture wound of the knee joint, badly infected and draining synovial fluid. The owner was given a syringe and instructed to inject the mercosterol oil through the puncture wound twice daily. In three days the improvement was so impressive that the ointment was used and covered with an elastic bandage. This horse now moves without a sign of a hitch or limp, and as a matter of record the owner took second place in calf roping at the National Livestock Exposition riding this horse. The use of the antiseptic ointment in horses has been particularly gratifying, as

(Continued on page 30)

Management Practices and Fertility in the Dairy Herd*

N. L. VanDEMARK, Ph.D.

Department of Dairy Science, University of Illinois, Urbana

The annual losses to United States dairymen from sterility and low fertility amount to several millions of dollars. The causes of sterility and low fertility are many and varied. Because of the diversity of causes and the fact that lowered fertility and sterility may be the result of several factors all acting simultaneously in an animal, no simple solution or one-shot treatment can be expected to correct all troubles. In fact in many cases the most careful analysis fails to clearly indicate the path of action required to return an animal to fertility.

Several studies have shown that "hard-to-settle" cows appearing in the herd one year may be in the group that settles on first service the following year (see Table 1 below). At the same time some cows that conceived to the first service one year will be "hard-to-settle" the next. This indicates that the repeatability or predictability of services required for conception for any one cow is low. This makes it impossible to cull out many cows that are going to be problem cows in the future. Some other means of improving fertility must be relied upon.

The way a cow is managed, cared for, and handled is the first line of defense against breeding troubles. If sufficient knowledge concerning the reproductive processes and the factors affecting them were at hand to place at the disposal of the dairymen, it is my opinion that we could greatly reduce the number of cases where it is necessary to try to correct troubles. Of course, this would depend upon how successful we were in getting dairymen, inseminating technicians, and veterinarians to carry out the indicated practices.

Some of the research work carried out in Illinois during the past few years has been designed to determine the effect of certain management practices on the fertility of cattle. It is the purpose of this paper to review some of these studies as well as to consider work done by others. The aspects considered are largely confined to the questions of when and how in breeding cattle.

*Presented at the CSVMA Midwinter Conference.

Heifers and Cows

Because there is normally a period of about 15 to 18 hours out of every 21 days when the breeding of cows and heifers can be carried out with hopes of reasonable success, careful observation and timing is necessary for good results. Further, certain conditions may make it undesirable to breed even during this 15 to 18-hour period.

Frequently the question arises as to whether or not the length of the estrous cycle has any relationship to the probability of successful breeding. Should cows with shorter or longer than normal cycles be bred? It is well established that only about 60 per cent of all cows and heifers show estrous cycles between 17 and 25 days in length. Thus, there are many cows that might be classified as abnormal in their estrous cycles. Furthermore, data from Kentucky have shown that the repeatability or predictability of cycle length from a single previous record was low, amounting to only 7 per cent. This means that the odds are against being able to predict the length of subsequent estrous cycles. Our investigations and those of others have shown that many cows even with estrous cycles of abnormal length will conceive if bred. Thus, if there are not other factors evident which indicate that a cow with an abnormal cycle should not be bred, breeding regardless of cycle length will result in several more cows conceiving and calving with a shorter calving interval.

The dairyman has the primary responsibility for seeing that his cows are bred at the optimum time during estrous. Results from several studies based on records from artificial insemination indicate that the optimum time to breed is from mid-estrous to the end of estrous, with fairly good results being obtained if the cow is bred within six hours after the end of estrous. If natural breeding is used the dairyman can control the time of breeding. If artificial breeding is used, the dairyman must be careful to

TABLE 1

REPEATABILITY OF CONCEPTION IN AN ILLINOIS DAIRY HERD

Services Required for Conception First Year			Per Cent of First Year Group Conceiving at Indicated Service the Second Year				
No. Ser.	No. Cows	Per Cent of Total	1	2	3	4	5 or more
1	920	59	57	22	10	5	6
2	314	20	56	21	12	5	6
3	155	10	56	19	9	6	10
4	81	5	52	26	12	7	3
5th or more	98	6	45	17	18	6	14

report the correct time that the cow first showed signs of estrous so that the technician can plan to arrive in the period when chances of a fertile insemination are best. False information may lead to breeding too early when chances of conception are much lower, or to breeding too late which can increase chances for infection in the uterus. The latter is indicated by the findings of Rowson and Lamming in England that infection is easily caused by the introduction of materials into the uterus during the progestational phase of the estrous cycle, but there is little chance of infection when materials are introduced during the follicular phase. Proper identification of the cow is also a responsibility of the dairyman. Even though there is little danger of pregnancy interruption if cervical insemination is used, the chance breeding of a pregnant cow can end in abortion or fetal resorption.

Another consideration in deciding upon when to breed cows is that of the condition of the reproductive tract. It should be disease free and completely recovered if after a previous calf. Some reports indicate that an interval of approximately 30 days is required for the uterus of the cow to return to normal size, shape, and tone following calving. Breeding results, on the other hand, indicate that a longer time is required before optimum fertility can be expected. A survey made in Illinois showed that when cows were bred less than 20 days after calving, on the average only one out of five conceived at that service. When 20 to 40 days recovery were allowed before rebreeding an average of two out of five cows settled. Allowing 60 days rest before rebreeding resulted in average conception rates.

It is often erroneously believed that starting to breed soon after calving gives more opportunity of getting the cow settled and keeping the calving interval down. Evidence that this idea does not necessarily hold has been found in several studies. Not only is there a lowered conception rate but increased breeding troubles occur too. An examination of the uteri of cows at various intervals after calving at the University of Illinois has shown that while most uteri had returned to normal size, shape, and tone by 30 days after calving, the endometrium in most still had not returned to normal. As more time elapsed between calving and the examination of tracts following slaughter, inflammation and other abnormal conditions became less and less noticeable. The condition of the endometrium seemed to correspond well with the observations made in the field on fertility levels. Both the laboratory observations and the field results indicated that a minimum of 50 to 60 days are required for recovery of the uterus so that reasonable fertility levels can be obtained.

One aspect of management which has been given little attention as far as its possible effect on reproductive efficiency is that of the manner of handling and treating the animals. Results of recent investigations at our laboratory are highly suggestive that mistreatment, rough handling, and abuse of cows can affect the cows' ability to produce and reproduce. Some of the details of these investigations are given in my paper dealing with the physiological responses in the cow during mating and artificial insemination.

Bulls

Before the days of the widespread use of artificial insemination, little attention was given to when and how bulls should be used for breeding purposes. Today the requirements of artificial breeding organizations make it important that more knowledge be assembled concerning the effect of varying conditions on semen production by bulls. With bulls as with cows management plays an important role.

One of the important questions being asked about the management of bulls is that dealing with the age of first use. Early evidence of a bull's genetic transmitting ability is at a premium with the personnel of the artificial breeding programs. Several studies have shown that first ejaculates of semen may be obtained from young bulls from 28 to 57 weeks of age. Our own studies indicate that sexual interest is shown approximately ten weeks before the first ejaculates are produced. During the first year of semen production, the volume of the ejaculate, sperm numbers per unit volume, and consequently total sperm per ejaculate all increase.

Closely associated with the age of first production of semen is the question of how frequently a bull should be used. A number of studies have been conducted on older bulls and even with them conflicting reports have appeared. However, the present trend seems to be toward a considerably more frequent use of bulls, though studies are limited which show the effect of continued use over an extended period when the frequency of collection is more often than one ejaculate every four days. Our own studies with young bulls comparing a frequency of collection of one ejaculate once, twice, or three times per week have shown no detectable decrease in semen quality with the increased frequencies. Further, bulls collected for one year following puberty once and twice each week continued to mount and ejaculate with no indication of an impairment in libido. Two bulls out of three refuse to work 10 to 20 per cent of the times tried on a collection frequency of three times per week. A third bull on this collection frequency had only two refusals in the year's trial and has now completed more than 26 months on this schedule of collection with only six refusals. No indications of a reduction in semen quality have been observed. These studies suggest that the main

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Bureau of Livestock Disease Control

H. P. BONNIKSON, D.V.M.

California Bovine Brucellosis Regulation No. 754.3 Adult Vaccination

This regulation pertaining to the official vaccination of adult cattle for brucellosis became effective January 20, 1954, and will terminate January 1, 1958. It provides that cattle over 12 months of age may be vaccinated by a licensed veterinarian with an approved strain 19 brucella vaccine within 10 days following a negative brucellosis test for California cattle or within 30 days for out of State cattle where the test is made at the point of origin. Cattle vaccinated in accordance with the regulation are required to be identified by a tattoo in their right ear followed by the last numeral of the year in which the vaccination occurred.

Such cattle shall be regarded as having been officially vaccinated and will not be required to be branded with the letter B on the left jaw in the event a subsequent blood test should indicate that they are reactors, or will not be required to be blood tested when offered for sale, loan, trade, gift, or otherwise disposed of as provided in regulation 754.1 which becomes effective January 2, 1956. Such cattle shall also be considered to qualify for the health requirement for brucellosis for entrance to state or county fairs.

The testing for brucellosis must be conducted by a licensed veterinarian or by an approved laboratory. The cost of the blood testing, identifying the cattle, vaccine and vaccination, will be entirely at the owner's expense. A report to this bureau of the vaccinations shall be submitted by the veterinarian conducting the work within 5 days from date of vaccination. D. A. I. Forms 26A have been prepared for this purpose and are available at the district offices.

During the January, 1954, Conference at Davis, the committee of representatives of the contract veterinarians and district veterinarians voted a recommendation that the tattoo include the official superimposed CV symbol now used in the brucellosis calfhood vaccination program. This was recommended in order that the tattoo cannot be improperly or fraudulently used. An emergency amendment to this regulation to that effect became effective on February 9.

Undiagnosed Cattle Condition in Los Angeles Area

An undiagnosed condition has occurred in cattle on several dairies in the Los Angeles area and recently on one dairy in San Joaquin County. The first case was observed on October 17, 1953.

The disease has been characterized by a very rapid onset. Mostly mature cattle have been affected, however a few heifers have shown marked symptoms. A high fever usually precedes other symptoms. Milk production drops almost to nothing over night; inappetance, depression and loss of condition follows. Excessive salivation, a heavy stringy nasal discharge, and respiratory disturbances accompanied by explosive coughing were observed. Young animals, especially in one herd, have shown a marked conjunctivitis with a copious white mucous discharge. Fecal discharges have varied from normal to a mild constipation.

Post-mortem findings have revealed a severe tracheitis, laryngitis and pharyngitis with some necrosis in the larynx and pharynx. Edema, submucous and intermuscular hemorrhages have surrounded these areas. Other lesions include alveolar emphysema of the lungs, pneumonia, pleuritis, and gastro enteritis. In some of the young cattle affected, minute vesicles were noted in the nasal passages. In a few cases, subcutaneous emphysema has been observed in the shoulder, loin and gluteal regions.

Death loss has been very low but economic losses to the owners have been considerable. Affected animals appear to make an eventual recovery returning to normal production.

Though various tests and inoculations have been made, a definite diagnosis has not been reached, however a number of suspected causes have been eliminated. If similar cases are observed in other parts of the State prompt reporting will be appreciated.

Fracture of Lower Jaw in Jersey Bull

An unusual use for the Kirschner splint was presented to me when called into consultation by Dr. J. K. Allen to see a Jersey bull with a fracture of the lower jaw. This bull was found one morning unable to eat and drooling from the mouth. The fracture was not diagnosed until a day or so later when crepitation was felt.

When a positive diagnosis was made, the fracture was found to be thru the symphesis, and left mandible just posterior to the incisors: actually two fractures.

Fixation was by Kirschner pins, one thru the two mandibles just posterior to the incisors, and the other pin six inches or so back, posterior to the fracture thru the left mandible.

The bones were immobilized by manual fixation and then by rods externally on each side of the face.

The bull began to eat immediately and never had a setback of any kind.

The pins were left in place for one month. Some proud flesh was present at the pin sites, but healing was complete with no after effects in a very few days after removal.—A. M. McCapes, D.V.M.

Livestock Diseases Reported

H. P. BONNIKSON, D.V.M.

Chief, Bureau of Livestock Disease Control, Division of Animal Industry, State Department of Agriculture, Sacramento, California.

Tabulation of diseases reported to the State Bureau of Livestock Disease Control during the period September to December, inclusive, 1953, also a Summary of the Reports of the Previous Eight Months.

	Sept.-Dec. incl., 1953			Jan.-Aug. incl., 1953 (Previous 8 Months)		
	North	Central	South	North	Central	South
Actinomycosis	1	1		1	5	3
Anaplasmosis	7	6	9	44	38	23
Anthrax, cattle		7		2	2	
sheep					1	
Blackleg	1					
Bluetongue, sheep	39	33	5	5	15	1
Bovine bacillary hemoglobinuria	8	3		3	3	1
Bovine trichomoniasis						1
Caseous lymphadenitis	1			2		
Chorioptic scab, cattle		1				
Coccidioidal granuloma		4			9	8
Coccidiosis, cattle	4	6		1	5	
sheep	9	1		2		
goats				1		
Contagious ecthyma, sheep	4			6	1	
goats		1			1	
Cysticercus bovis	11	17	19	11	35	117
cellulosa		1				
Encephalitis, cattle	1			3		
Equine encephalomyelitis	3	11	1	8	2	3
Foot rot, cattle				3	2	
sheep				5		
Hog cholera	1	4	1	7	11	13
Inf. atrophic rhinitis, hogs		2			1	
Johne's disease, cattle		1		3	2	
sheep	1					
Leptospirosis, cattle	7	12	4	9	18	1
swine	1	1		2		
Listerellosis, cattle	1			2	1	
sheep		1		1		
Malignant edema	4	10	3	6	5	4
Malignant head catarrh	1			1		
Mycotic stomatitis, cattle	2	2		1	8	2
Paratyphoid, cattle		10		1	4	
hogs					7	
Screw worm infestation				1		
Swine erysipelas				1	5	
Vesicular exanthema, native		8	9	9	46	63
imported				1	137	91
Vibrio fetus, cattle	2	2		5	4	
sheep		3		2		

Notes From San Fernando Veterinary Medical Association

The San Fernando Valley Veterinary Medical Association announces 1954 officers: President, Dr. Tom Moore, North Hollywood; Vice-President, Dr. Richard Hawes, North Hollywood; Secretary-Treasurer, Dr. Howard C. Taylor, Burbank.

Since its organization in 1948 with 15 charter members, the group has grown to 40 active members. Dinner meetings are held on the second Friday of each month. The meetings not only foster friendly relations among the members, but serve as a means of disseminating information of interest to the profession.

An example of concerted effort by the group was in connection with the Los Angeles City compulsory rabies bill. A councilman from San Fernando Valley was undecided about the bill.

Combined efforts by members of the SFVVMA, the PTA, Legion Posts, etc., persuaded the councilman to vote for the bill.

From a good public relations point of view, the SFVVMA has inaugurated an emergency service program, which allows the client to reach a veterinarian any time, day or night, and on Sundays and holidays.

A telephone exchange operator filters all calls and contacts the doctor on duty for that 24-hour period. Each doctor keeps himself available for this duty once every 17 days. Thus the San Fernando Valley has ethical veterinary service at all times.

The cost of the association is low—about $136 per year. A small advertisement in the local telephone directory calls the service to the attention of pet owners.

Such a service could only be successful, it was pointed out, when all members cooperate thoroughly, and any petty jealousy is completely wiped out.

DR. HOWARD C. TAYLOR,
Secretary-Treasurer

New Form of Aureomycin

Lederle Laboratories announce a new form of aureomycin chlortetracycline, marketed as Aureomycin Calcium Oral Drops. The drops are for peroral use and are recommended for calf scours and pneumonia in calves less than a month old, and for respiratory infections, bacterial infections associated with distemper, and local infections in small animals.

Correction

In the Orange Belt Veterinary Medical Association article, January-February issue, presentation of plaques to Dr. Bateman, Dr. Brunson and Dr. C. White, retired, should have read Dr. C. H. Wight and we are informed that he is not retired and has no intention of retiring.

Bay Counties Symposium

The Bay Counties VMA will hold a symposium at the Palace Hotel in San Francisco on April 27 from 10 to 5. Topics announced are canine nutrition, veterinary dermatology, bovine sterility, canine fracture reduction, radiology for the practitioner, applied virology, and ophthalmology.

MORNING SESSION

Concert Room

Moderator: Russell P. Cope, D.V.M. Berkeley, California.

9:00-10:00—Registration.

10:00-10:30—Canine Nutrition—Thomas Jones, D.V.M., Dean, School of Veterinary Medicine, University of Georgia, Athens, Georgia.

10:30-11:00—Veterinary Dermatology — Frank Kral, D.V.M., School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

11:00-11:30—Newer Developments in Canine Fracture Reduction — W. O. Brinker, D.V.M., School of Veterinary Medicine, Michigan State College, East Lansing, Michigan.

11:30-12:00—Questions—Panel Discussion.

12:00- 2:00—Luncheon—Rose room.
Luncheon Chairman—R. L. Stowe, D.V.M., President, Bay Counties Veterinary Association.
Luncheon Speaker—Karl Meyer, M.D., Ph.D. (pending).

AFTERNOON SESSION

Concert Room

Moderator: Rex Taylor, D.V.M. San Jose, California.

2:15- 2:45—Some Problems in a Bovine Animal Practice—Harry Kingman, Sr., D.V.M., Practitioner, Mineral Bluff, Georgia.

2:45- 3:15—Helpful Hints on Radiology—Myron Thom, D.V.M., Pasadena, California.

Recess—Coffee

3:30- 4:00—Applied Virology—Morris Pollard, D.V.M., University of Texas School of Medicine, Galveston, Texas.

4:00- 4:30—Eye Diseases and Surgery—W. G. Magrane, D.V.M., School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

4:30- 5:00—Questions—Panel Discussion.

5:30- 6:30—Cocktails and Hors D'oeuvres.

Board of Examiners

Governor Goodwin J. Knight has appointed Dr. William K. Riddell of Los Angeles to the Board of Examiners in Veterinary Medicine to take the place of Ernest C. Baxter whose term expired. The board is made up of Eugene C. Jones, president, Long Beach; Dr. R. A. Ball, vice-president, Modesto; Dr. Gaylord K. Cooke, secretary, Berkeley; Dr. Ernest H. Houchin, Ventura; Dr. William K. Riddell, Los Angeles; James M. Sims, Jr., investigator, Sacramento.

Dr. Charles J. Parshall, San Francisco, has been appointed a delegate to the House of Representatives of the AVMA, and Dr. Fred B. Pulling, Jr., Atascadero, is the alternate. Dr. C. Edward Taylor, San Francisco, has been appointed AVMA Resident Secretary.

Methods of Fracture Treatment

(Continued from page 17)

Venable, Eggers and others found new interest in veterinary surgery.[30, 31, 32] Unlike previously mentioned methods of osteosynthesis, "fixation" with plates and screws usually needs added external support. As to indications it is generally agreed, that plating should be limited to the treatment of slow or non-unions in radius and ulna and tibia fractures, especially in the distal third, to fractures in close proximity of joints, where the small articular fragments cannot be held in apposition by other methods,[32, 33] and as support for onlay-grafts. Bending or breaking of plates and loosening of screws are usually traceable to a faulty technique. In order to withstand the stress at the fracture site, the plates must be approximately five times as long as the diameter of the bone, and the screws must go through both, inner and outer cortex. The material used for plates today is Vitallium or 18-8 SMO Stainless Steel. Care must be taken that the screws and plates are of the same material. The *Leighton shuttle pin* is a novelty with much the same indications as Lane- or Sherman- plating.[34] During open reduction a double-pointed intramedullary pin with a hole in its centre and about the length of a Sherman plate is introduced into the proximal fragment and after reduction it is drawn into the distal one by a steel wire passed through the center hole. The wire is removed and the shuttle pin permanently left in place. The fixation thus obtained is about the same as in bone plating, but the Leighten shuttle pin can be applied in much shorter time, and from an engineering point of view there is less strain on an intramedullary appliance than on an external one. In controls over a period of two years no reactions to the permanently implated pin have been noticed.[35]

The Shaffer sleeve, a plastic tube, which could be slipped over the fragments as a means of immobilizing long oblique and comminuted fractures, is a good example of how enthusiasm over a simple mechanical principle may outweigh sound judgement. The principle is not new, Robinau in 1928 and Pascal in 1930 used metal collars to unite fractures. Much smaller encirling bands, such as the Parham band and even stainless steel wire loops inhibit callus formation and may cause refractures. With one exception[36] the reports on the Shaffer sleeve have been disappointing.[37, 38]

Bone grafting has not yet found the place it deserves in veterinary surgery. Research is carried on and practical experience is gathered by many institutions and practitioners, but no comprehensive report has yet found its way into our literature. Massive onlay-grafts, homologous and autogenous, are used, for the over bridging of large defects in connection with cancellous bone chips. One of the most

frequent failures, fracture of the graft before bony union has occurred, is easily overcome by supporting the graft with a Sherman plate instead of simple screw fixation. Recent experimental work, using whole cortical bone which is held in place by an intramedullary nail, yielded encouraging results. Weightbearing can be permitted almost immediately after the operation, and the periosteal callus formation is not interfered with at all.[39] It might be interesting to add, that Herndon and Chase[40] carried out an experimental study on homologous transplants of whole knee joints in dogs. Follow-up of two years after operation showed little degeneration of the articular surface in the autogenous grafts.

Arthroplasties have been performed on hip joints of dogs for several years, but it was not until recently that this technique became part of veterinary orthopedics. The principal indications for coxofemoral arthroplasty are non-and faulty unions of femoral neck fractures. Aspetic necrosis of the proximal fragment seems to occur in dogs even more frequently than in man despite various efforts of osteosynthesis and conservative treatment.[41, 42] At our clinic an exact copy of the normal femoral head and neck is made out of dental acrylic and fixed to the femur shaft with a long axial screw and bolt. To control possible movement between the plastic head and the bony shaft two additional screws are inserted at different angles. Brown uses for the same purpose a stainless steel prostheses.[43]

Corrective Osteotomies to adjust faulty unions have been performed on dogs ever since the beginning of operative fracture treatment. Cuneiform osteotomy in the distal third of the femur was first described by Shuttleworth as the treatment for certain types of medial patella luxations.[44] Within the last few years an always typical deformation involving the distal radial epiphysis, an interesting syndrome previously described,[45] was our main indication for cuneiform osteotomies.

Having briefly discussed the newer additions to our fracture armamentarium, a chart of "what is used where" will help in organizing the multitude of available equipment.* There will be discussion and disagreement as to the fixation method chosen for individual fractures, but it must always be remembered, that the good result in treating a fracture depends not so much on the method used as on the individual and continued personal care and supervision that is given, guided by simple anatomical, physiological and mechanical principles.

References

[1]Jenny, J.: Proc. Indiana Vet. Assoc., 1953, and *J. Vet. Med.*, 1954 Manuscript.
[2]Jenny, J.: Proc. South. Vet., Assoc., Baltimore, 1951.
[3]Bechtol, Charles O.: Am. Acad. Orth. Surg. Instr. Course, 1952, 257-264.
[4]Schroeder, E. F.: *Cornell Vet.*, XXV, 111-131, 1935.
[5]Barry, A. A.: *J.A.V.M.A.*, 118, 886, 1951.
[6]Mason, C. T.: *North. Am. Vet.*, 29, 360, 1948.
[7]Saunders, Edward C.: Proc. A.V.M.A. 1951, 187-189.
[8]Jenny, J.: Proc. Ohio State Vet. Assoc., 1952.
[9]Larsen, Svend: Maanedskrift for Dyrlaeger, 39, 337, 1927.
[10]Nielson, Moltzen: Proc. 5th Nord. Vet. Congr. 5-20, 1939.
[11]Nielson, Moltzen: *Vet. Rec.*, 61, 791-797, 1949.
[12]Greene, J. E. et Coll.: *Cornell Vet.*, 40, 331-335, 1950.
[13]Brinker, W. O.: *North Am. Vet.*, 29, 292-297, 1948.
[14]Trunbull, N. R: *Vet. Rec.*, 61, 476-477, 1949.
[15]Lumb, W. V. and Coll.: *North Am. Vet.*, 33, 714-716, 1952.
[16]Jenny, J.: *J.A.V.M.A.*, 117, 381-387, 1950.
[17]Jenny, J.: Proc Virginia State Vet. Assoc., 1950.
[18]Obel, N.: *Nord. Vet. Med.*, 3, 723, 1951.
[19]Rush, L. V., and H. L.: *Am. J. Surg.*, 324-333, 1949.
[20]Lambotte, Albin: "Chirurgie operatoire des fractures," Masson, Paris, 1913.
[21]Anderson, Roger: *J. Bone Joint Surg.*, 16, 379, 1934.
[22]Stader, Otto: *North Am. Vet.*, 20, 54-58, 1939.
[23]Stader, Otto: *North Am. Vet.*, 20, 58-62, 1939.
[24]Ehmer, E. A.: *M.S.C. Vet.*, 8, 105-108, 1948.
[25]Omrod, A. Noel: *Vet. Rec.*, 62, 616, 1950.
[26]Knowels, A. T and Coll.: *Vet. Med.*, 44, 259-265, 1949.
[27]Knowels, A. T. and Coll.: *Vet. Med.*, 44, 306-310, 1949.
[28]Olsson, M. L.: Personal communication.
[29]Lane, W. Arbuthnot: The Operative Treatment of Fractures, London, 1914.
[30]Chappel, C. I. and Archibald, James: *Vet Med.*, 46, 291-294, 1951.
[31]Knight, J. C.: *Br. Vet. J.*, 125, 294-304, 1949.
[32]Kirk, Hamilton: *Vet. Rec.*, 62, 94-95, 1950.
[33]Jenny, J. and Brodey, R.: *North Am. Vet.*, 1954, Manuscript.
[34]Leighton, R. L.: *J.A.V.M.A.*, 117, 202-205, 1950.
[35]Leighton, R. L.: Personal communication.
[36]Butler, Raymond L.: Proc. A.V.M.A., 186-187, 1951.
[37]Kernick, W. A.: Senior Thesis, Dept. Surgery, University of Pennsylvania, 1951.
[38]Baker, J. M.: Proc. A.V.M.A., 188-191, 1951.
[39]Fitts, W. T.: Exp. Studies on Whole Bone Grafts in the Femur of Dogs. Manuscript.
[40]Herndon, H. Ch. and Chase, S. W.: *J. Bone and Joint Surg.*, 34-A, 564-578, 1952.
[41]Knowels, A. T. and Coll.: *J.A.V.M.A.*, 123, 508-515, 1953.
[42]Anderson, W. D. and Coll.: *J.A.V.M.A.*, 122, 158-160, 1953.
[43]Brown, Roger E.: *North Am. Vet.*, 34, 423-428, 1953.
[44]Shuttleworth, A. C.: *Vet. Rec.*, 62, 365-370, 1950.
[45]Jenny, J.: Proc. A.A.H.A. Atlantic City, 1951.

*See page 17 for chart.

Dr. Norden Resigns

Dr. Carl J. Norden, Sr., who founded the Norden Laboratories in 1919, has resigned his position as president, but will remain active as chairman of the board. Dr. Norden, Jr., who is almost as well known as his famous dad, has been elected vice president and secretary of the firm. Dr. E. C. Jones, formerly vice president and sales manager, will succeed the elder Norden as president. Dr. Jones is a graduate of Kansas State, and among other activities has served as president and director of the Associated Serum Producers.

Traum Visits California

Dr. Jacob Traum, for so long a Californian, has made his first visit here as chief scientist of the Plum Island Animal Disease Laboratory, New York. Dr. Lawrence O. Mott, virologist of the USDA came with him, and Dr. Stanley E. Piercy, Deputy Director of the East African Veterinary Research Organization of Kenya Colony accompanied them to Sacramento.

The Editor Reviews the Ads

"Only *Viracine* is tissue-cultured in a test tube!" says CUTTER LABORATORIES about its tissue cultured hog cholera vaccine. Viracine's test tube method of production in Laboratory Media assures you a modified live virus vaccine that can be—and is—carefully controlled and checked for virulence, safety and potency. You may order Viracine in 5, 25 and 50 dose packages, complete with diluent. Or, write Cutter Laboratories, Berkeley, for literature.

* * *

If you work with cats and smaller animals, have you written for the free brochure describing CAGECRAFT'S "Duplex?" It is specially engineered to fulfill requirements for a versatile utility cage for cats and smaller animals. Actually two cages in one, it is mobile, collapsible, rugged, and designed for the ultimate in sanitation. The "Duplex" can be stacked three high on the mobile stand, or hung from a wall. Easily disassembled, too. Might be worth looking into.

* * *

The ELECTRIC DEHORNING SAW developed by Dr. J. R. Wynkoop, Winchester, Ohio, is proving to be a real practice advancement. Dr. Wynkoop advises veterinarians anticipating purchase of a horn saw, that the smaller model with 3-inch blade readily handles dairy stock with horns up to three inches in diameter. The larger model handles horns up to four inches in diameter.

* * *

ASHE LOCKHART, INC., Kansas City, Missouri, tells of their Rabies Vaccine, available in bulk packages and amounts at quantity discount prices. As to *economy*, they say "the unit cost of phenolized rabies vaccine is far the lowest of any." This long established firm uses the slogan "Producers of better biologics for graduate Veterinarians." Their phenolized rabies vaccine has been used as an efficient control measure for many years.

* * *

You can check the various formulae in the HAVER - GLOVER LABORATORIES' advertisement and make a practical choice for treatment of Mastitis in its various forms and stages. Also useful in treating Topical lesions. These packages of 12 tubes are called P2S Ointment, P2S Strong, and P3S-10, and extreme temperatures do not affect their consistency. In Los Angeles, Sharpe & Co. represents Haver-Glover, while in San Francisco it is the Central City Chemical.

* * *

The HILL PACKING COMPANY of Topeka, Kansas, announces five special formulae (all useful in nutritional therapy): for Intestinal disorders, Nephritic conditions, Obesity correction, Reproduction and lactation, and Special diet for cats. Hill's *Dog Food* was tested commercially to satisfy the American Veterinary Medical and Animal Hospital Assns., food committee's standards, before being granted the "Seal of Approval." Graduate Veterinarians may obtain complete information on therapeutic feeding of dogs and cats. Check their adv. for address.

NOTE: *The above are the last of the series until after the convention issue when the products of the exhibitors will be featured. The "Editor Reviews the Ads" will appear again in the July-August issue. To cover all advertisers it takes three issues.*

Experiences With a New Antiseptic

(Continued from page 23)

wounds such as barbed wire cuts heal rapidly without the excessive granulation so commonly seen. Such dramatic results are responsible for the excellent regard the use of this product has developed.

Large gelatin capsules containing 5 cc. of the antiseptic oil have been made available by the manufacturer for treating uterine infection in cows. These capsules have been used for the post-partum cleaning of 18 cows with most satisfactory results. The capsules have been dispensed to a number of clients for the same purpose, and all have reported favorably on the results obtained. The capsules are easy to insert, melt quickly, and are convenient to dispense.

Summary

Results have been presented on the use of a new antiseptic in a mixed veterinary practice. This antiseptic is entirely new, being the first true lipid synthesized possessing potent antiseptic properties in small quantities (0.005 to 0.0075% mercury). Satisfactory results were obtained in 50 of 56 cases of mastitis treated, and the earlier treatment was instituted the better the results obtained.

Prepared in an oil or ointment, the mercuriated sterol has been of value in treating dermatological lesions, wounds, and infections of the ear skin, anal glands, uterus, etc. To date, in several hundred cases, no evidence of toxicity has been manifest. As an antiseptic, mercosterol appears to have an extremely wide antibacterial spectrum, and no evidences of the development of resistance or compensation have been observed.

Applicants

Roger A. Burr, San Francisco. Vouchers: G. P. Bertetta, Wm. L. Bigelow.

John M. Klar, Gardena. Vouchers: Samuel Apt, W. E. Niemeyer.

OPPORTUNITIES

Twenty-five words or less, $2.00; 5 cents for each additional word. Replies sent in care of this journal, 25 cents extra. Remittance must accompany order. Deadline for ads is the 15th of each odd-numbered month of the year.

Position Wanted

June graduate of Michigan State College School of Veterinary Medicine desires a position in a small-animal or mixed practice in Southern California. Single, age 25, with two summers' experience. Box A, care of *California Veterinarian.*

* * *

June graduate, Michigan State College, desires position with small-animal practitioner in California with future possibilities. Married, 28, draft exempt. Some small animal experience. Thomas Skinner, 415A Willow MSC, East Lansing, Michigan.

* * *

Position with large or small animal practitioner by 1951 graduate AVMA approved school. Licensed in California with two years practice experience. Write Box B, care *The California Veterinarian.*

* * *

Graduate University of Pennsylvania School of Veterinary Medicine interested in position in California. Address Kurt A. Schilling, 4404 Pine Street, Philadelphia 4. Pa.

* * *

Locate in California

Robert G. Jones, 109 E. 8th Street, North Platte, Nebraska, desires to locate in California small animal hospital, or would consider other opening.

* * *

Relief Work

Experienced graduate veterinarian available for relief work while you are on vacation. California license. Mailing address, Dr. J. G. Blue, 2121 E. 2nd Street, Tucson, Arizona.

* * *

For Sale

Animagraph X-Ray machine for sale. Excellent condition. Dr. J. N. Henry, 13740 E. 14th Street, San Leandro, California.

Successful Examinees

We are pleased to announce that the following applicants passed the State Board examination given January 28th to 30th of this year.

Walter John Barngrover, Thomas H. Calvin, Bennett Jay Cohen, Lothar R. Eberhardt, Calvin Charles Gatz, Albert Roundy Greenwood, Henry H. Hayes, Bernard Anthony Hoehner, Ray Edward Hughes.

Pierre Alexandre Lieux, Frank Owen May, Jr., Ralph George Molnau, Keith Irving Pittman, Hortense Ford Rowan, Paul Wm. Newlin Smith, David Mathews Strohauer, Orville A. Warner.

In Memoriam

ELLIS PETERSON

Dr. Ellis Peterson of Aptos died on February 19, 1954. Dr. Peterson was a native of Massachusetts and graduated from Harvard University. He practiced in Massachusetts for a few years and then practiced in Sacramento for 30 years where he specialized in large animal practice. He then moved to Aptos where he was semi-retired for the past 10 years. He would have been eligible for life membership in the AVMA this year. Dr. Peterson was a member of the CSVMA, Masonic Lodge, charter member of the Kiwanis Club of Sacramento and Santa Cruz and an active member of the Harvard Club of San Francisco. He is survived by his wife Valma, and two brothers who live in Massachusetts.

HENRY E. TORGERSEN

Dr. Henry E. Torgersen (C.V.C. '08) died on February 16, 1954 in Mountain View at the age of 84. He was a life member of the AVMA and the CSVMA. He practiced in Illinois and came to California in 1910 where he was associated with the City of Oakland in milk control work. He served in World War I and was discharged with the rank of Lieutenant Colonel. He was founder and owner of the Dairy Products Laboratory at San Francisco for the last 30 years. Dr. Torgersen is survived by his widow, son and grandson.

ROBERT SCHRECENGOST

Dr. Robert Hunter Schrecengost died on March 20, 1954, at his home in Arcadia at the age of 62. Dr. Schrecengost was a graduate of McKillip Veterinary College and practiced for 20 years at Armstrong, Iowa. He was a member of the Los Angeles County Livestock Department from October 12, 1934 until his retirement on January 31, 1947. He was a member of the AVMA, CSVMA, Southern California VMA, American Legion, Elks and Lions Club. Dr. Schrecengost leaves his wife, Margaret, and a son.

JAMES A. FARQUHARSON

James A. Farquharson, widely known veterinarian, died on March 11, 1954, from a heart attack at the home of his son, Dr. William Bruce Farquharson, Phoenix, Arizona. He was 57 years of age. He was president of the AVMA in 1945-46. The deceased leaves two sons, William Bruce and James, Jr.

OWEN H. CRIPE

We regret to announce that we have learned that Dr. Owen H. Cripe of Eureka has passed away.

CASE REPORT

About last mid-February I was contacted by Dr. John Woolsey, practitioner in Santa Rosa, in regard to a sick lamb belonging to one of his clients. That day the owner had come to Dr. Woolsey for advice. The case history follows:

I believe that members of our profession, and perhaps others, will be interested in the following case involving a practicing veterinarian who assisted materially in the diagnosis of rabies in a lamb after the owner had been exposed.

A two-month-old nursing lamb at first refused to nurse and then began acting "peculiar for a lamb." Symptoms were frequent bleating, trying to mount the mother, and pugnaciously butting her. On questioning the owner, Dr. Woolsey learned that he had recently found a dead wild gray fox in the barnyard. The owner stated that he had handled the lamb, even putting his hand in its mouth in an endeavor to make it nurse. Within a few days the lamb died.

The owner had been advised by Dr. Woolsey to bring the lamb to our laboratory for autopsy, saying the symptoms seemed suspicious for rabies. This the owner did. We followed our routine procedure with all rabies suspects in submitting the head to the Public Health Laboratory. Microscopic examination by the County Public Health Laboratory revealed no Negri bodies, but on my informing those in charge that there had been human exposure the brain was tested by mouse inoculation. In about two weeks the report was returned as positive for rabies. This report was relayed to us and I was asked by the County Office to report the finding to the owner, which I did immediately, advising him to consult his personal physician without delay about rabies immunization. I also called the owner's doctor and informed him about the case to avoid any possible procrastination.

Current literature on reported incidence in rabies in sheep indicates that it is rather rarely reported in this species in the United States.

Here was a situation in which a sheep farmer might easily dismiss one sick lamb as of little consequence. Had he not taken the trouble to consult a qualified veterinarian he might have paid for the oversight with his life. This is one way in which members of our profession can be called on at any time to help save human as well as animal life.

I think Dr. Woolsey deserves the congratulations of his professional colleagues and the public for a job well done.

Yours very truly,

W. H. ARMSTRONG
Livestock Pathologist
Bureau of Livestock Disease Control

Bay Counties V.M.A. Meeting

The Bay Counties Veterinary Medical Association held its regular monthly meeting March 9, at the Bermuda Palms Hotel, San Rafael. Guest speaker was J. R. Douglas, Ph.D., Associate Professor of Parasitology and Associate Parasitologist in the Experiment Station, Davis. Paul DeLay, President of the CSVMA also spoke on general association matters. Those present were:

Floyd H. White, San Rafael; H. S. Cameron, Davis; Joseph M. Arburua, San Francisco; Edward LeDonne, Jr., San Pablo; E. G. LeDonne, Oakland; J. W. Roberts, Berkeley; K. T. Maddy, Berkeley; Donald E. Madsen, San Jose.

E. W. Kay, Jr., San Jose; Robert Handel, Napa; Bob Clark, Napa; C. E. Taylor, San Mateo; John G. Cranfield, San Carlos; R. P. Gobler, Sonoma; M. Schmidt, Jr., Fairfield; L. Martinelli, San Francisco.

H. Albertson, San Francisco; H. H. Schwab, Berkeley; R. J. Tompkins, Oakland; B. F. Murray, Oakland; W. W. Brimer, Alameda; George Rebold, Berkeley; George Eberhart, El Cerrito; R. L. Stowe, San Francisco.

P. D. DeLay, Sacramento; James R. Douglas, Davis; D. McArdle, Sonoma; V. C. Paulson, Corte Madera; Charles D. Stafford, Novato; W. T. Berner, San Rafael; Howard Carroll, San Francisco; Roger A. Burr, San Francisco.

C. J. Peetz, Corte Madera; J. H. Willmore, San Anselmo; M. H. Conklin, Mill Valley; M. Levy, San Francisco; J. M. Christensen, Concord; R. P. Cope, Berkeley; C. W. Turner, Oakland; C. E. Brown, Antioch.

Leo Lindauer, San Francisco; Wm. Stansbury, Antioch; A. J. Gutknecht, Redwood City; Wm. L. Bigelow, Palo Alto; R. E. Philbrick, Hamilton A. F. Base; Walter Ziegler, Pasadena; Robert L. Stansbury, Pasadena; Joe Brown, Cupertino; Ben Burdo, Sebastopol; Charles S. Travers, San Francisco.

Peninsula V.M.A. Meeting

The Peninsula Veterinary Medical Association held its regular monthly meeting March 15, at the Villa Chartier, San Mateo. Paul DeLay, President of the CSVMA was guest speaker. Those present were:

P. H. Hand, Millbrae; Chas. Chase, Millbrae; Wing Chin, San Mateo; C. N. Bramer, Palo Alto; A. J. Gutknecht, Redwood City; John G. Cranfield, San Carlos; T. H. Reed, Portland, Ore.; J. K. Perry, Palo Alto.

P. D. DeLay, Sacramento; W. L. Bigelow, Palo Alto; E. M. Cohan, Palo Alto; Jim Gilmore, San Mateo; Tom Harris, San Mateo; R. M. Grandfield, San Mateo; S. M. Smith, Palo Alto; Harold Groth, San Mateo; Charles S. Travers, San Francisco.

New Director of Public Health

Dr. Malcolm H. Merrill was appointed by Governor Goodwin J. Knight as State Director of Public Health.

A resident of Berkeley, Merrill has served as deputy director since 1944. He succeeds Dr. Wilton L. Halverson, who resigned recently to become a professor of preventive medicine and public health and associate dean of the School of Public Health at the University of California at Los Angeles.

The appointment is effective April 1, for a term ending January 1, 1956.

Fertility in Dairy Herd

(Continued from page 25)

problem of semen production by a bull may not be one of sperm production by the testes but rather one of keeping the bull interested in working.

The maintenance of libido in many cases is associated with the manner in which a bull is handled. With the young bulls in our studies as well as the older bulls in other studies, it has been shown that a period of sexual stimulation such as that produced by restraining the bull near the teaser cow prior to collection results in the production of considerably larger ejaculates which contain more sperm per unit volume.

It has long been known that distracting conditions which cause fright, excitement, or disturbance of a bull during mating or collection with the artificial vagina may cause the bull to refuse to work. Little consideration has been given to the possible effect of mistreatment or abuse other than at the time of ejaculation. We became curious as to whether or not mistreatment might affect the fertility level of a bull. To test this idea we set up an experiment in which simulated mistreatment was accomplished by daily injections of epinephrine. This investigation revealed that daily injections of epinephrine caused treated bulls to drop in semen production to the point where they were producing only about 25 per cent of the number of motile sperm per ejaculate that control bulls were producing. After the epinephrine injections were stopped (during a 10 week post-treatment period) the treated bulls recovered and produced about 85 per cent of the number of motile sperm produced by control bulls. When this experiment was repeated on older bulls no detectable effects of the epinephrine injections were noted. Furtheir investigations are needed to correctly interpret these results. However, there seems to be little doubt that mistreament of young bulls could have a serious detrimental effect on the semen producing ability of the bull. All evidence seems to point to the need for careful, gentle handling of the bull as well as the cow.

The Seattle AVMA Meeting

The AVMA has never met in Seattle before, and has not met in the Pacific Northwest since 1925, so it is anticipated that this summer's meeting will prove very popular. Scenic attractions will lure visitors from the eastern states, and the ease of making the short trip should insure the presence of all the westerners who have not felt they could afford the time to travel east for meetings. California should be especially well represented. Registration will begin at noon on Sunday, August 22, in hotels and at Convention Headquarters, the Olympic Hotel. Full information is published in the AVMA Journal.

The Bay Counties Veterinary Medical Association

Announces

A VETERINARY MEDICAL SYMPOSIUM

at

The Palace Hotel
San Francisco, California
Tuesday, April 27, 1954
10:00 a. m. to 5:00 p. m.

Seven eminent authorities will deliver lectures on: Canine Nutrition, Veterinary Dermatology, Sterility in the Bovine, Newer Developments in Canine Fracture Reduction, Radiology for the Practitioner, Applied Virology, and Ophthalmology.

Speakers to be announced by individual mail. Watch for your program.

There will be no fee for attendance at scientific or social sessions. Ladies are welcome and encouraged to attend the social sessions.

Luncheon will be served during the noon recess.

Cocktails and hors d'oeuvres will follow the afternoon session.

Lederle Laboratories Division of the American Cyanamid Company will act as co-sponsor of this program.


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Solution Ophthaine Veterinary instilled into the eye produces local anesthesia in a quick, efficient manner.

In addition, it has been shown to be virtually free of undesirable side effects. It is non-irritating to conjunctival membranes.

Ophthaine is a sterile aqueous solution containing 0.5 percent of the active ingredient, 2-diethylaminoethyl-3-amino-4-propoxybenzoate hydrochloride.

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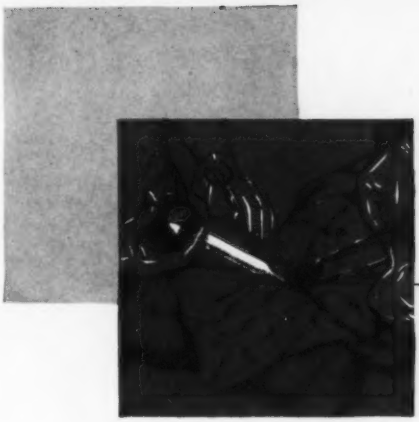

for the control of capillary bleeding

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Thrombin, Topical is a sterile hemostatic powder obtained from plasma and is intended for *TOPICAL APPLICATION* (never injected) to control capillary bleeding. A solution containing 1000 units per cc. will clot an equal volume of blood in a matter of seconds.

Like natural thrombin, Thrombin, Topical clots blood by its direct action on fibrinogen, thus forming naturally clotted blood, sealing severed capillaries, and arresting bleeding.

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When used *topically*, Thrombin, Topical will control capillary bleeding encountered during such procedures as abdominal, orthopedic, oral, or neurosurgery, and following dental extraction. Also used as a hemostatic adjunct in the control of persistent oozing hemorrhage, in epistaxis, and gastrointestinal hemorrhage where Thrombin, Topical can come into direct contact with the bleeding surface.

Thrombin, Topical is readily soluble. It may be applied as a dry powder or dissolved in sterile, isotonic saline, and applied as a solution, using either a hypodermic syringe without a needle or a syringe with blunt needle. Also may be sprayed by atomizer.

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Rabies Vaccine

(LOCKHART)

PHENOLIZED RABIES VACCINE CONTROLS OUTBREAK

According to Frederickson *et al.*,[1] the 1950 to 1951 rabies epizootic in St. Louis was controlled quickly, by mass vaccination of the dog population, after quarantine measures alone had failed. Neighboring communities continued to have a high incidence of rabies. Although only about 0.5 percent of the 38,006 dogs vaccinated in the clinics received modified live virus vaccine, and the overwhelming majority received the usual 20 percent phenolized vaccine of caprine and ovine origin, not a single case of postvaccinal paralysis was reported to the Health Division. These figures would indicate that the danger of postvaccinal paralysis in dogs, following administration of phenolized rabies vaccine, may have been greatly exaggerated recently.

1. Frederickson, L. E.; Willett, J. C.; Smith, J. E., and Price, E. R.: Metropolitan rabies epizootic controlled by vaccination. Vet. Med. **48** (1953) 276-279, 288.

(*from The North American Veterinarian, Nov. 1953*)

Experience—**The article at left as news is not new. It is timely only because it is human nature to see the sensational, and overlook tried and time-proven methods. Phenolized rabies vaccine has been used as an efficient control measure for many years.**

Efficiency—**Immunity developed by phenolized rabies vaccine for a practical period of time, is as good as that from any other rabies vaccine, as reported by the Public Health Service.**

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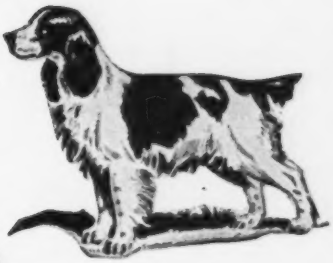

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(1) Vet. Med. 48:425 (Oct.) 1953.

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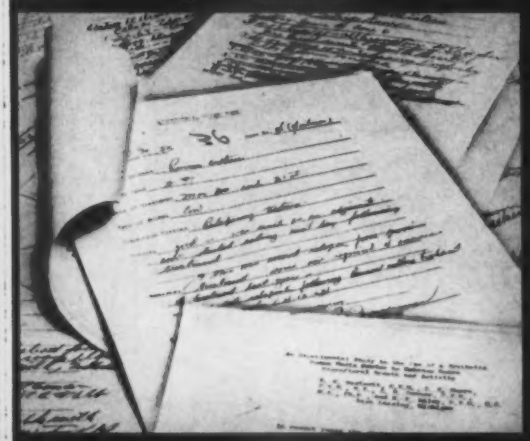

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